

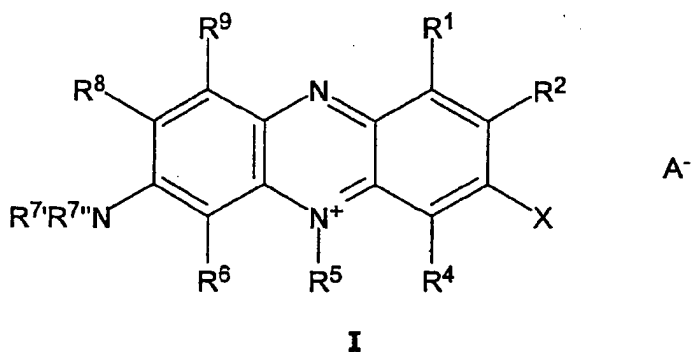
AMENDMENTS TO THE CLAIMS

Please amend the claims as follows in accordance with the listing of claims set forth below.

This listing of claims will replace all prior versions, and listings, of all claims in the application.

LISTING OF THE CLAIMS

Claim 1. (Currently amended) ~~Halogenated or pseudohalogenated~~ Pseudohalogenated monomeric phenazinium compounds of a purity of at least 85 mole-% having the following ~~general~~ chemical formula I:



wherein R^1 , R^2 , R^4 , R^6 , R^7 , $R^{7'}$, R^8 and R^9 are selected independently of each other from a group consisting of hydrogen, halogen, amino, aminoalkyl, hydroxy, cyano, thiocyanate, isothiocyanate, cyanate, isocyanate, ~~mercapto, carboxy, the salt thereof, carbonic acid ester, sulfo, the salt thereof, sulfoester,~~ lower alkyl, unsubstituted aryl [[,]] and substituted aryl wherein the substituents are selected from the group consisting of alkyl, halogen, hydroxyl, amino,

wherein amino is NH₂, NHR or NR'R'', wherein R, R' and R'' are lower alkyl, cyano, thiocyanate and mercapto, heteroaryl and alicyclic heteroradicals, R⁵ is selected from a group consisting of lower alkyl, unsubstituted aryl [[,] and substituted aryl wherein the substituents are selected from the group consisting of alkyl, halogen, hydroxyl, amino, wherein amino is NH₂, NHR or NR'R'', wherein R, R' and R'' are lower alkyl, cyano, thiocyanate and mercapto and heteroaryl,

X is a halogen or a pseudohalogen and A⁻ is an acid anion selected from the group consisting of sulfate, hydrogen sulfate, halide, tetrafluoroborate, hexafluorophosphate, nitrate, acetate, trifluoroacetate and methanesulfonate.

Claim 2. (Previously presented) The phenazinium compounds according to claim 1, characterized in that R¹, R², R⁴, R⁶, R⁷, R^{7'}, R⁸ and R⁹ are selected independently of each other from a group consisting of hydrogen and lower alkyl.

Claim 3. (Original) The phenazinium compounds according to claim 2, characterized in that lower alkyl is methyl or ethyl.

Claim 4. (Previously presented) The phenazinium compounds according to claim 1, characterized in that R⁵ is aryl.

Claim 5. (Original) The phenazinium compounds according to claim 4, characterized in that aryl

is phenyl.

Claim 6. (Currently amended) The phenazinium compounds according to claim 1, characterized in that X is ~~chlorine, bromine or~~ thiocyanate.

Claim 7. (Currently amended) The phenazinium compounds according to claim 1, characterized in that they are selected from a group ~~comprising~~ consisting of

- i) ~~3-chloro-7-N,N-dimethylamino-2-methyl-5-phenyl-phenazinium salt,~~
- ii) ~~3-bromo-7-N,N-dimethylamino-2-methyl-5-phenyl-phenazinium salt,~~
- iii) ~~3-bromo-7-N,N-diethylamino-5-phenyl-phenazinium salt and~~
- iv) 7-amino-2,8-dimethyl-3-thiocyanato-5-phenyl-phenazinium salt.

Claim 8. (Currently amended) The phenazinium compounds according to claim 7, characterized in that the salt is selected from a group consisting of ~~chloride, bromide,~~ hydrogen sulfate and tetrafluoroborate.

Claim 9. (Currently amended) The phenazinium compounds according to claim 7, characterized in that they are selected from a group consisting of

- i) ~~3-chloro-7-N,N-dimethylamino-2-methyl-5-phenyl-phenazinium chloride,~~
- ii) ~~3-bromo-7-N,N-dimethylamino-2-methyl-5-phenyl-phenazinium bromide,~~
- iii) ~~3-bromo-7-N,N-diethylamino-5-phenyl-phenazinium bromide and~~

iv) 7-amino-2, 8-dimethyl-3-thiocyanato-5-phenyl-phenaziniumtetrafluoroborate.

Claim 10. (Currently amended) A method of producing the ~~[[The]]~~ phenazinium compounds according to claim 1, including obtainable according to the following method: a) forming a diazonium compound by diazotization of a monomeric phenazinium compound comprising at least one primary amino group in the presence of mineral acid and diazotization means in a first reaction step, and b) reacting the diazonium compound in a second reaction step to the ~~halogenated or pseudohalogenated~~ monomeric phenazinium compound in the presence of mineral acid and ~~halide or pseudohalide~~, wherein the first and the second reaction steps are both run in one single vessel.

Claim 11. (Withdrawn) A method of preparing the halogenated or pseudohalogenated monomeric phenazinium compounds in accordance with claim 1, comprising the following reaction steps: a) forming a diazonium compound by diazotization of a monomeric phenazinium compound comprising at least one primary amino group in the presence of mineral acid and diazotization means in a first reaction step, b) reacting the diazonium compound in a second reaction step to the halogenated or pseudohalogenated monomeric phenazinium compound in the presence of mineral acid and halide or pseudohalide, characterized in that the first and the second reaction steps are both run in one single vessel.

Claim 12. (Withdrawn) The method according to claim 11, characterized in that the mineral acid

is selected from a group consisting of hydrogen halides, sulfuric acid, tetrafluoroboric acid, hexafluorophosphoric acid, phosphoric acid and the mixtures thereof with the proviso that no hydrogen halide is used in the preparation of the pseudohalogenated monomeric phenazinium compounds.

Claim 13. (Withdrawn) The method according to claim 11, characterized in that the diazotization means is metal nitrite or nitrosylsulfuric acid.

Claim 14. (Withdrawn) The method according to claim 13, characterized in that the metal nitrite is sodium nitrite.

Claim 15. (Withdrawn) The method according to claim 11, characterized in that the halide is added in the form of hydrogen halide and/or in the form of a metal halide.

Claim 16. (Withdrawn) The method according to claim 15, characterized in that the metal halide is selected from a group consisting of transition metal halides.

Claim 17. (Withdrawn) The method according to claim 16, characterized in that the transition metal halides are selected from a group consisting of copper (I) halides, copper (II) halides, nickel (II) halides and iron (II) halides.

Claim 18. (Withdrawn) The method according to claim 11, characterized in that the halide is selected from a group consisting of fluoride, chloride and bromide.

Claim 19. (Withdrawn) The method according to claim 11, characterized in that the pseudohalide is selected from a group consisting of cyanate (-OCN), thiocyanate (-SCN), isocyanate (-NCO) and isothiocyanate (-NCS).

Claim 20. (Withdrawn) The method according to claim 11, comprising the following method steps: i) mixing the monomeric phenazinium compounds, comprising at least one primary amino group, with the mineral acid, ii) next heating to a temperature above room temperature, iii) adding the halide or pseudohalide iv) adding the diazotization means.

Claim 21. (Withdrawn) The method according to claim 20, characterized in that, in the preparation of the halogenated monomeric phenazinium compounds, the mineral acid is hydrogen halide and step iii) is eliminated.

Claim 22. (Withdrawn) The method according to claim 11, characterized in that the following halogenated or pseudohalogenated monomeric phenazinium compounds are prepared: a) 3-chloro-7-N, N-dimethylamino-2-methyl-5-phenyl-phenazinium chloride, b) 3-bromo-7-N, N-dimethylamino-2-methyl-5-phenyl-phenazinium bromide, c) 3-bromo-7-N, N-diethylamino-5-phenyl-phenazinium bromide, d) 7-amino-2, 8-dimethyl-3-thiocyanato-5-phenyl-

phenaziniumtetrafluoroborate.

Claim 23. (Withdrawn) An acidic bath for electrolytically depositing a copper deposit, containing at least one halogenated or pseudohalogenated monomeric phenazinium compound in accordance with claim 1.

Claim 24. (Withdrawn) The bath according to claim 23, characterized in that the phenazinium compounds are contained in a concentration of from 0.00005-0.1 g/l.

Claim 25. (Withdrawn) The bath according to claim 23, characterized in that it additionally contains compounds selected from a group consisting of nitrogen-containing sulfur compounds and polymeric nitrogen compounds.

Claim 26. (Withdrawn) The bath according to claim 25, characterized in that the concentration of the nitrogen-containing sulfur compounds and the polymeric nitrogen compounds contained together in the bath is from 0.0001-0.50 g/l.

Claim 27. (Withdrawn) Use of the bath according to claim 23 for depositing a mirror bright, leveled copper deposit for the purpose of producing decorative surfaces.

Claim 28. (Withdrawn) Use of the bath according to claim 23 for forming a copper deposit on

printed circuit board material.

Claim 29. (Withdrawn) Use of the bath according to claim 23 for forming a copper deposit on semiconductor substrates.

Claim 30. (Withdrawn) A method of electrolytically depositing a copper deposit onto a workpiece by which the workpiece and at least one anode are contacted with the bath according to claim 23, and a flow of electric current is generated between the workpiece and the anodes.

Claim 31. (Previously presented) The phenazinium compounds according to claim 2, characterized in that R^5 is aryl.

Claim 32. (Previously presented) The phenazinium compounds according to claim 3, characterized in that R^5 is aryl.

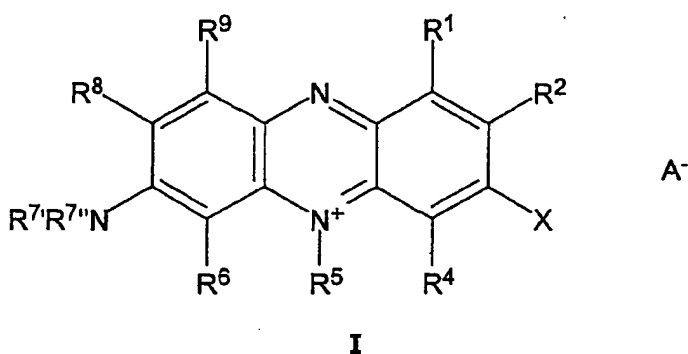
Claim 33. (Previously presented) The phenazinium compounds according to claim 5, characterized in that X is chlorine, bromine or thiocyanate.

Claim 34. (Currently amended) A method of producing the [[The]] phenazinium compounds according to claim 5, including obtainable according to the following method: a) forming a diazonium compound by diazotization of a monomeric phenazinium compound comprising at

least one primary amino group in the presence of mineral acid and diazotization means in a first reaction step, and b) reacting the diazonium compound in a second reaction step to the ~~halogenated or pseudohalogenated~~ monomeric phenazinium compound in the presence of mineral acid and ~~halide or pseudohalide~~, wherein the first and the second reaction steps are both run in one single vessel.

Claim 35. (Withdrawn) A method of preparing the halogenated or pseudohalogenated monomeric phenazinium compounds in accordance with claim 5, comprising the following reaction steps: a) forming a diazonium compound by diazotization of a monomeric phenazinium compound comprising at least one primary amino group in the presence of mineral acid and diazotization means in a first reaction step, b) reacting the diazonium compound in a second reaction step to the halogenated or pseudohalogenated monomeric phenazinium compound in the presence of mineral acid and halide or pseudohalide, characterized in that the first and the second reaction steps are both run in one single vessel.

36. (New) Halogenated monomeric phenazinium compounds of a purity of at least 85 mole-% having the following chemical formula I:



wherein R^1 , R^2 , R^4 , R^6 , R^7 , $R^{7''}$, R^8 and R^9 are selected independently of each other from a group consisting of hydrogen, halogen, amino, aminoalkyl, hydroxy, cyano, thiocyanate, isothiocyanate, cyanate, isocyanate, lower alkyl, unsubstituted aryl and substituted aryl wherein the substituents are selected from the group consisting of alkyl, halogen, hydroxyl, amino, wherein amino is NH_2 , NHR or $NR'R''$, wherein R , R' and R'' are lower alkyl, cyano, thiocyanate and mercapto, R^5 is selected from a group consisting of lower alkyl, unsubstituted aryl and substituted aryl wherein the substituents are selected from the group consisting of alkyl, halogen, hydroxyl, amino, wherein amino is NH_2 , NHR or $NR'R''$, wherein R , R' and R'' are lower alkyl, cyano, thiocyanate and mercapto,

where X is a halogen and A^- is an acid anion;

wherein the phenazinium compounds are selected from the group consisting of

- i) 3-chloro-7-N N-dimethylamino-2-methyl-5-phenyl-phenazinium salt,
- ii) 3-bromo-7-N N-dimethylamino-2-methyl-5-phenyl-phenazinium salt and
- iii) 3-bromo-7-N,N,-diethylamino-5-phenyl-phenazinium salt.

37. (New) A method of preparing the halogenated monomeric phenazinium compounds in accordance with claim 36, comprising the following reaction steps: a) forming a diazonium compound by diazotization of a monomeric phenazinium compound comprising at least one primary amino group in the presence of mineral acid and diazotization means in a first reaction step, b) reacting the diazonium compound in a second reaction step to the halogenated monomeric phenazinium compound in the presence of mineral acid and halide, characterized in that the first and the second reaction steps are both run in one single vessel.

38. (New) An acidic bath for electrolytically depositing a copper deposit, containing at least one halogenated monomeric phenazinium compound in accordance with claim 36.

39. (New) The bath according to claim 38, characterized in that it additionally contains compounds selected from a group consisting of nitrogen- containing sulfur compounds and polymeric nitrogen compounds.